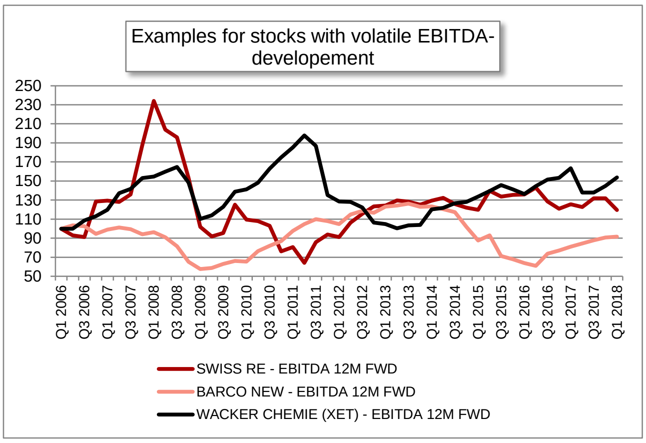
# ECONOMIC SITUATION AND STRATEGY

## Why small caps are so valuable

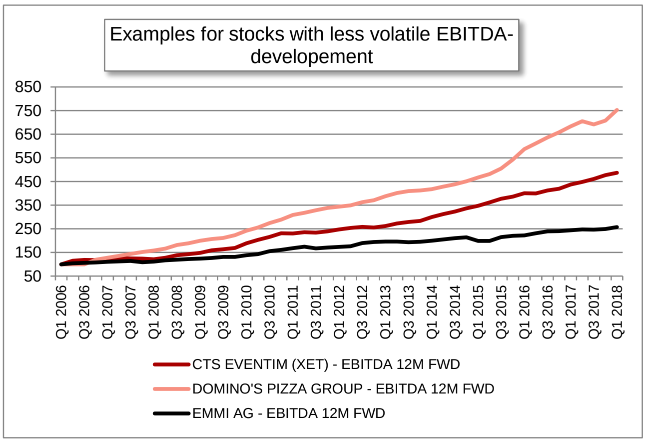
It is no secret that small companies usually do better on the stock exchange than large ones. In Germany, for example, stocks with lower market capitalization (small caps) in the SDAX index (+176%) have performed significantly better than those with higher market capitalization (large caps) in the DAX index (+92%). This pattern is also repeated over long periods at the international level: the smaller the market capitalization, the better the performance. Considered in itself, the matter is so clear that it would be wrong to recommend investing in large caps at all unless there were a reason to take a more differentiating view of it. But risk is that reason. Small cap companies are deemed riskier because they have less diversified business models and often serve market niches with very special products. This usually finds expression in slight elevated fluctuations of small cap share prices. Volatility in the STOXX 50 index in the last 10 years has been about 17.5%, while that of the STOXX 200 Small Cap index comes to 20.3%. But is there really a good reason for the increased price volatility?

The only good reason we can see would be that underlying business development is also more volatile for small companies than for large ones. To check that, we first calculated the changes in estimates of sales, earnings per share (EPS), and earnings before interest, tax, depreciation, and amortization (EBITDA) for all stocks in the STOXX Total Market Index for every quarter compared with each of the two preceding years since 2006 and then derived the susceptibility to fluctuation (volatility) of key fundamental figures from the results. Our investigation included about 1,100 stocks, well covering the spectrum of European stocks from large to small.

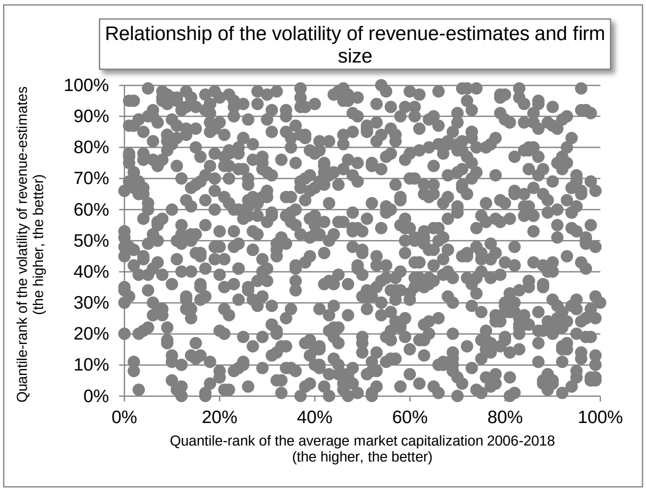
We found only a marginal connection between size and stability, which was not even statistically significant and therefore not reliable. Now, one might object that observation over one or two years is not a suitable time window; but one comes to the same conclusion if other periods are chosen. Since this result surprised us a bit, we went a little deeper into the matter by approaching volatility or the cyclicity of key fundamental figures in a different statistical way. Our idea was that the "more chaotic" the development of key fundamental figures is, the more they deviate from a trend over time. Initially, it does not matter whether the trend is linear or non-linear, positive or negative. Just the constant deviation from a trend of any kind is a strong indication of the "disruptability" of a business model. Our approach derives from this consideration. We first attempted with a regression analysis to optimally identify a trend for each company in the broad STOXX Total Market Index and then in a second step analyzed how much the individual numbers deviate from this trend over time (measured in terms of $R^2$). The chart below presents three examples of companies that exhibit significant deviations from their trend over time and thus have a highly cyclical character in respect to EBITDA estimates.

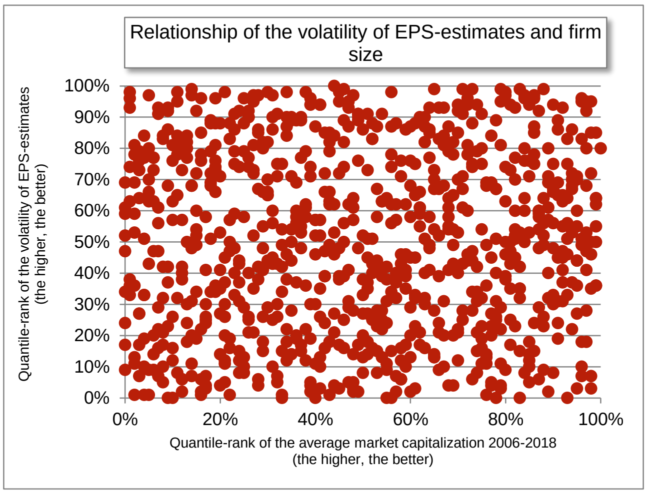


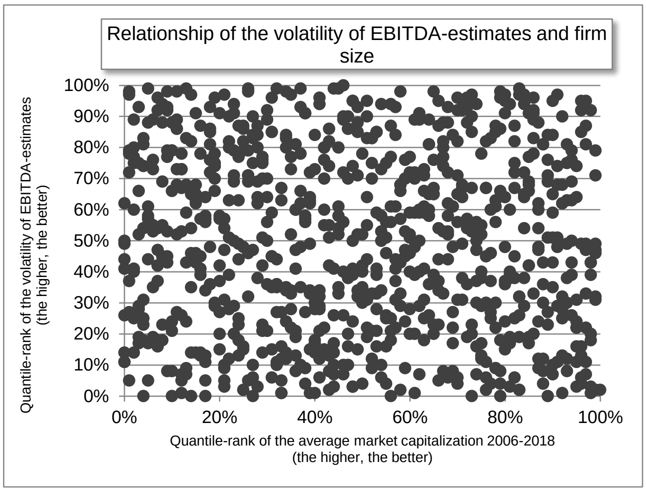

Things look different in the following chart, which shows three companies with low deviation from the EBITDA trend.




We then used this method to check in a statistically reliable way the extent to which volatility in the sense of constant deviations from trend in respect sales, earnings, and EBITDA is connected with company size measured in terms of market capitalization. However, as in the previous investigations, we found no statistically reliable connection. Ultimately, one might conclude that company size had no substantial influence on the volatility of key fundamental figures, so there would not be even one good reason that small companies exhibit higher price volatility than large ones. At most, heightened volatility of key fundamental figures may be observed in the case of the very smallest companies in our analysis. But that changes nothing in regard to the overall picture, as the charts below show, in which each dot stands for the combination of a stock's fundamental volatility and company size.

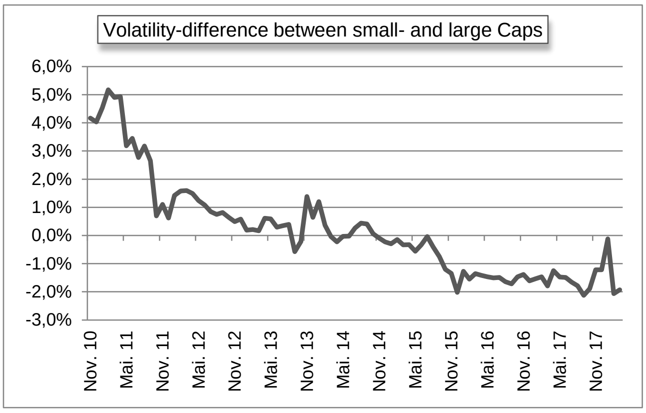


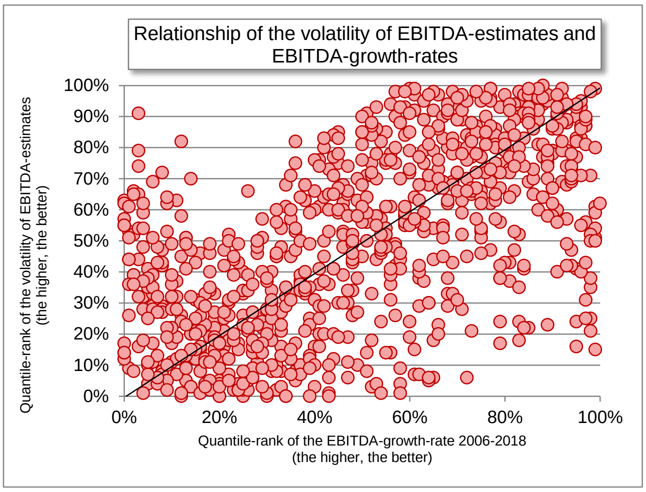




Even if one again combines and thus more robustly configures these individual results by calculating the average for the quantile ranks of trendiness in sales, earnings, and EBITDA and takes that average in turn as estimator for the overall volatility of all key fundamental figures, no new insight emerges. In the end, there is only "noise" without clear connections.

But if that is so – and we no longer have any doubt – the question arises as to why small caps show heightened volatility. Can the market actually be so inefficient as not to notice that price volatility does not line up with fundamental volatility? We could not entirely believe that and therefore took another, closer look at price volatility. On further inspection, it appears that something remained concealed at first. For, even though the volatility of small caps is higher than that of larger stocks over relatively long periods, the volatility gap has been converging over the years and is almost linear. In fact, the volatility of small caps has been lower than that of large caps for some time.




So, the market has well understood that there is no good reason for the higher price volatility. However, the fact that the yield difference between small caps and large caps has not changed is good for some excitement. And we unexpectedly encountered yet another interesting result in our research. Even though there is no connection between company size and fundamental stability, there certainly is one between fundamental stability and fundamental success. The companies that exhibit linear, more uniform business development are those that exhibit the strongest earnings growth rates in the long term.



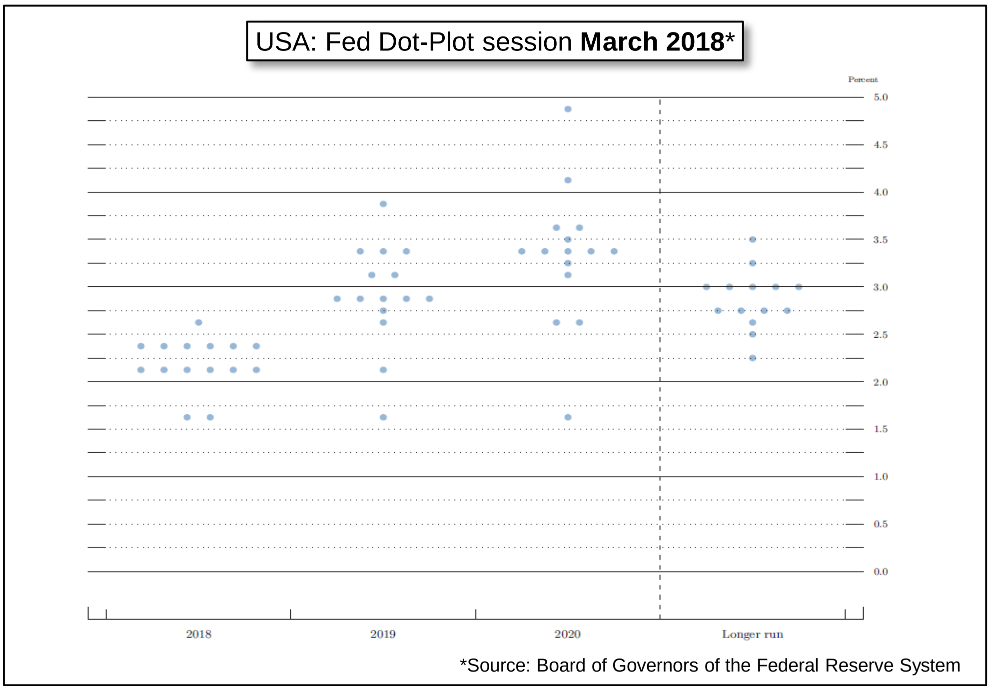

So, whoever concentrates on small companies with especially stable business models should be able to continue beating large cap indexes in the future without running higher risks at the same time.

## Weekly outlook for March 26-30, 2018

| | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | Release |
|---|---|---|---|---|---|---|---|
| DE: Import prices, m/m | 0.8% | 0.3% | 0.5% | 0.4% | | | March 26 |
| DE: Import prices, y/y | 2.7% | 1.1% | 0.7% | 0.7% | | | March 26 |
| DE: GFK consumer confidence | 10.7 | 10.7 | 10.8 | 11.0 | 10.8 | 10.9 | March 28 |
| DE: Inflation rate, flash, m/m | 0.3% | 0.6% | -0.7% | 0.5% | 0.5% | | March 29 |
| DE: Inflation rate, flash, y/y | 1.8% | 1.7% | 1.6% | 1.4% | 1.4% | | March 29 |
| DE: Unemployment rate | 5.5% | 5.5% | 5.4% | 5.4% | 5.4% | | March 29 |
| EUR19: Economic confidence | 114 | 115.3 | 114.9 | 114.1 | 114.3 | | March 27 |
| EUR19: Business climate | 1.49 | 1.60 | 1.56 | 1.48 | 1.50 | | March 27 |
| EUR19: Consumer confidence | 0.0 | 0.5 | 1.4 | 0.1 | 0.4 | | March 27 |
| EUR19: Industry confidence | 8.1 | 8.8 | 9.0 | 8.0 | 8.0 | | March 27 |
| EUR19: Service sector sentiment | 16.4 | 18.0 | 16.8 | 17.5 | 17.5 | | March 27 |
| EUR19: M3 money supply, y/y | 4.9% | 4.6% | 4.6% | 4.7% | | | March 27 |

MMWB estimates in red

## **Chart of the Week**: Powell's first interest rate step




*Source: Board of Governors of the Federal Reserve System

The new chair of the US Federal Reserve, Jerome Powell, held his first press conference yesterday and announced an increase of the fed funds target rate by 25 basis points to 1.50-1.75%. This first interest rate step in 2018 is in line with market expectations, which priced in the step with a probability of 94% based on fed funds futures. Attention has therefore also focused on the Fed's medium to long-term outlook for the US economy and hence on how many interest rates steps may be expected in 2018 and 2019. The economic projections for the United States in 2018 and 2019 have improved slightly. This is reflected primarily in an increase of the GDP forecasts and an expected lower unemployment rate. The inflation forecast for 2018 remains unchanged at 1.9%, while the estimates for 2019 and 2020 have been raised minimally from 2.0% to 2.1%. The central bankers do not infer from that any change of interest rate policy for 2018. Based on the dot plot, a majority continues to expect three rate hikes this year. For 2019, the majority of FOMC members see three increases in line with the improved forecasts in contrast to two at the last meeting. Has the Fed's monetary policy orientation now become more hawkish? Not necessarily. Powell emphasized at the same time that the Fed would continue to react flexibly to changing economic conditions. However, since those are now very favorable, it may be inferred that future key interest rate hikes are likely to proceed rather slowly. Moreover, his statements regarding inflation risks and wages, for example, sound somewhat dovish. Reactions on the foreign exchange and bond markets in the form of a weaker dollar and lower government bond yields agree with this interpretation. Overall, Powell is thus keeping all options open for the path of monetary policy going forward.

| Stock marktes | As of 23.03.2018 17:42 | Change versus 16.03.2018 -1 week | 22.02.2018 -1 month | 22.12.2017 -3 months | 29.12.2017 YTD |
|---|---|---|---|---|---|
| Dow Jones | 23877 | -4,3% | -4,3% | -3,5% | -3,4% |
| S&P 500 | 2636 | -4,2% | -2,5% | -1,8% | -1,4% |
| Nasdaq | 7167 | -4,2% | -0,6% | 3,0% | 3,8% |
| DAX | 11886 | -4,1% | -4,6% | -9,1% | -8,0% |
| MDAX | 25204 | -1,7% | -4,2% | -3,6% | -3,8% |
| TecDAX | 2555 | -4,6% | -1,1% | 0,8% | 1,0% |
| EuroStoxx 50 | 3304 | -3,9% | -3,7% | -7,0% | -5,7% |
| Stoxx 50 | 2916 | -3,3% | -4,4% | -8,5% | -8,2% |
| SMI (Swiss Market Index) | 8552 | -3,7% | -4,6% | -9,0% | -8,8% |
| Nikkei 225 | 20618 | -4,9% | -5,1% | -10,0% | -9,4% |
| Brasilien BOVESPA | 84253 | -0,7% | -2,8% | 12,1% | 10,3% |
| Russland RTS | 1261 | 0,6% | -3,0% | 11,1% | 9,3% |
| Indien BSE 30 | 32597 | -1,7% | -3,6% | -4,0% | -4,3% |
| China Shanghai Composite | 3153 | -3,6% | -3,5% | -4,4% | -4,7% |
| MSCI Welt (in €) | 2073 | -3,3% | -2,7% | -5,3% | -4,3% |
| MSCI Emerging Markets (in €) | 1197 | -1,8% | -1,0% | 0,6% | 0,3% |
| **Bond markets** | | | | | |
| Bund-Future | 163,14 | 495 | 438 | 137 | 146 |
| Bobl-Future | 130,98 | 28 | 18 | -61 | -63 |
| Schatz-Future | 111,96 | 6 | 3 | 1 | -1 |
| 3 Monats Euribor | -0,33 | 0 | 0 | 0 | 0 |
| 3M Euribor Future, Dec 2017 | -0,30 | 0 | -5 | -5 | 0 |
| 3 Monats $ Libor | 2,29 | 8 | 34 | 60 | 59 |
| Fed Funds Future, Dec 2017 | 2,08 | -2 | 1 | 19 | 0 |
| 10 year US Treasuries | 2,83 | -2 | -9 | 34 | 42 |
| 10 year Bunds | 0,53 | -4 | -13 | 11 | 11 |
| 10 year JGB | 0,02 | 0 | -3 | -3 | -3 |
| 10 year Swiss Government | 0,06 | 5 | -2 | 19 | 19 |
| US Treas 10Y Performance | 562,10 | 0,0% | 0,8% | -2,6% | -3,3% |
| Bund 10Y Performance | 605,09 | 0,4% | 1,7% | -0,4% | -0,4% |
| REX Performance Index | 480,47 | 0,2% | 0,9% | -0,1% | 0,0% |
| US mortgage rate | 0,00 | 0 | 0 | 0 | 0 |
| IBOXX AA, € | 0,77 | 0 | -1 | 11 | 9 |
| IBOXX BBB, € | 1,39 | 2 | 3 | 17 | 15 |
| ML US High Yield | 6,60 | 8 | 13 | 41 | 45 |
| JPM EMBI+, Index | 814 | -0,2% | 0,3% | -2,4% | -2,7% |
| Convertible Bonds, Exane 25 | 7287 | 0,0% | -0,8% | -1,6% | -1,5% |
| **Commodities** | | | | | |
| CRB Spot Index | 439,30 | -1,0% | -0,7% | 1,7% | 1,6% |
| MG Base Metal Index | 343,03 | -1,6% | -4,6% | -2,1% | -4,4% |
| Crude oil Brent | 69,97 | 5,9% | 5,4% | 7,8% | 5,0% |
| Gold | 1349,32 | 2,6% | 1,5% | 5,9% | 3,5% |
| Silver | 16,40 | 0,7% | -1,4% | -0,1% | -3,6% |
| Aluminium | 2052,75 | -0,5% | -6,8% | -5,9% | -9,0% |
| Copper | 6652,50 | -3,1% | -6,7% | -6,1% | -7,7% |
| Iron ore | 70,96 | -2,3% | -7,9% | 0,1% | -0,4% |
| Freight rates Baltic Dry Index | 1117 | -2,3% | -4,3% | -18,2% | -18,2% |
| **Currencies** | | | | | |
| EUR/ USD | 1,2354 | 0,4% | 0,6% | 4,2% | 3,0% |
| EUR/ GBP | 0,8731 | -1,0% | -1,2% | -1,4% | -1,6% |
| EUR/ JPY | 129,56 | -0,5% | -1,5% | -3,6% | -4,0% |
| EUR/ CHF | 1,1704 | 0,0% | 1,7% | -0,3% | 0,0% |
| USD/ CNY | 6,3110 | -0,3% | -0,7% | -4,0% | -3,0% |
| USD/ JPY | 105,28 | -0,7% | -1,4% | -7,1% | -6,6% |
| USD/ GBP | 0,71 | -1,6% | -1,5% | -5,5% | -4,4% |


| | | | | | |
|---|---|---|---|---|---|
| Carsten Klude | +49 40 3282-2572 | cklude@mmwarburg.com | Martin Hasse | +49 40 3282-2411 | mhasse@mmwarburg.com |
| Dr. Christian Jasperneite | +49 40 3282-2439 | cjasperneite@mmwarburg.com | Dr. Rebekka Haller | +49 40 3282-2452 | rhaller@mmwarburg.com |
| Bente Lorenzen | +49 40 3282-2409 | blorenzen@mmwarburg.com | Julius Böttger | +49 40 3282-2229 | jboettger@mmwarburg.com |